IN THE CLAIMS

Please amend the claims to read as indicated herein.

Please cancel claims 38, 75, 77 and 78.

Please amend the claims to read as indicated herein.

1 – 25. (canceled)

26. (currently amended) A collector for guiding light with a wavelength of ≤ 193 nm onto a plane, said collector comprising:

a first mirror shell for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance; ~~and~~

a second mirror shell for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance; and

a central aperture obscuration with a numerical aperture ≤ 0.30,

wherein said light impinges with an angle of incidence of less than 20° to surface tangents of said first and second mirror shells,

wherein said first and second mirror shells are rotationally symmetrical and concentrically arranged around a common axis of rotation,

wherein said first and second ring aperture sections do not overlap with one another,

wherein said first planar ring section substantially abuts said second planar ring section,

wherein said first irradiance is approximately equal to said second irradiance, and

wherein said collector has a focal point.

27. (currently amended) The collector of claim ~~26~~ 76, wherein said first and second mirror shells have dimensions that are different from one another in a direction of said axis of rotation.

28. (currently amended) The collector of claim ~~26~~ 76,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is an inner mirror shell and said second mirror shell is an outer mirror shell,

wherein said first mirror shell has a mean value of an initial point and an end point with regard to said axis of rotation that indicates a position of said first mirror shell,

wherein said second mirror shell has a mean value of an initial point and an end point with regard to said axis of rotation that indicates a position of said second mirror shell, and

wherein said position of said outer mirror shell is further distant from said plane than said position of said inner mirror shell.

29. (currently amended) The collector of claim ~~26~~ 76,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance,

wherein said second mirror shell is for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said collector has:

a first quotient of (i) a first ratio of a radial dimension of said first planar ring section to an angular extension of said first ring aperture section and (ii) a second ratio of a radial dimension of said second planar ring section to an angular extent of said second ring aperture section; and

a second quotient of (i) a first radiant intensity, which is reduced by a loss of reflectivity of said first mirror shell, which flows into said first ring aperture section, and of (ii) a second radiant intensity, which is reduced by a loss of reflectivity of said second mirror shell, which flows into said second ring aperture section,

wherein said first quotient is substantially equal to said second quotient.

30. (currently amended) The collector of claim ~~26~~ 76,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance,

wherein said second mirror shell is for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said collector has:

a first ratio of a radial dimension of said first planar ring section to an angular extent of said first ring aperture section; and

a second ratio of a radial dimension of said second planar ring section to an angular extent of said second ring aperture section, and

wherein said first ratio is substantially equal to said second ratio.

31. (currently amended) The collector of claim ~~26~~ 76,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance,

wherein said second mirror shell is for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said first and second planar ring sections have radial dimensions of equal size,

wherein said first and second planar ring sections are concentric,

wherein said first planar ring section is an inner planar ring section and said second planar ring section is an outer planar ring section,

wherein said first mirror shell has a dimension in a direction of said axis of rotation,

wherein said second mirror shell has a second dimension in said direction of said axis of rotation, and

wherein said dimension of said first mirror shell is larger than said dimension of said second mirror shell.

32. (currently amended) The collector of claim ~~26~~ 76, wherein said first and second mirror shells are each a ring-shaped segment of an aspherical object.

33. (currently amended) The collector of claim ~~32~~ 76, wherein said first and second mirror shells are each a ring-shaped segment of a form selected from the group consisting of an ellipsoid, a paraboloid and a hyperboloid.

34. (currently amended) The collector of claim ~~26~~ 76, wherein said first mirror shell comprises a first segment with a first optical surface and a second segment with a second optical surface.

35. (previously presented) The collector of claim 34, wherein said first segment is from a hyperboloid and said second segment is from an ellipsoid.

36. (previously presented) The collector of claim 34, wherein said first segment is from a hyperboloid and said second segment is from a paraboloid.

37. (currently amended) The collector of claim ~~26~~ 76,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance,

wherein said second mirror shell is for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said first and second ring aperture segments are separated by a gap.

38. (canceled)

39. (currently amended) The collector of claim ~~38~~ 76, wherein said central aperture obscuration comprises a diaphragm concentric to, and interior to, said first mirror shell.

40. (currently amended) The collector of claim ~~26~~ 76, wherein said collector has an object-side maximum numerical aperture $NA_{max} \geq 0.4$.

41. (currently amended) The collector of claim ~~26~~ 76, wherein said first and second mirror shells are two of a plurality of at least three mirror shells.

42. (canceled)

43. (currently amended) An illumination system, comprising the collector of claim ~~26~~ 76.

44. (previously presented) The illumination system of claim 43, further comprising an optical element having raster elements.

45. (currently amended) The illumination system of claim 44,

wherein said collector guides said light onto a plane,

wherein said first mirror shell is for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance,

wherein said second mirror shell is for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said raster elements are located within said first and second planar ring sections.

46. (previously presented) The illumination system of claim 44,

wherein said optical element is a first optical element, and

wherein said illumination system further comprises a second optical element for imaging.

47. (previously presented) The illumination system of claim 44,

wherein said optical element is a first optical element, and

wherein said illumination system further comprises a second optical element for field shaping.

48. (currently amended) The illumination system of claim 43,

wherein said ~~plane is~~ collector guides said light onto a first plane, and

wherein said illumination system has a second plane conjugated to a light source for said light, between said collector and said first plane, in which an intermediate image of said light source is formed.

49. (previously presented) The illumination system of claim 48, further comprising a diaphragm in or near said intermediate image, wherein said diaphragm separates a space containing said light source and said collector from a portion of said illumination system downstream of said diaphragm.

50. (previously presented) An EUV projection exposure system comprising:

the illumination system of claim 43 for illuminating a mask; and

a projection objective for imaging said mask on a light-sensitive object.

51. (previously presented) A process for producing a microelectronic device, comprising using the EUV projection exposure system of claim 50.

52. (previously presented) A collector for guiding light with a wavelength of ≤ 193 nm onto a plane, said collector comprising:

a first mirror shell for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance; and

a second mirror shell for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance,

wherein said first and second mirror shells are rotationally symmetrical and concentrically arranged around a common axis of rotation,

wherein said first and second ring aperture sections do not overlap with one another,

wherein said first planar ring section substantially abuts said second planar ring section,

wherein said first irradiance is approximately equal to said second irradiance, and

wherein said first mirror shell includes a first segment with a first optical surface and a second segment with a second optical surface.

53. (previously presented) The collector of claim 52, wherein said first segment is from a hyperboloid and said second segment is from an ellipsoid.

54. (previously presented) The collector of claim 52, wherein said first segment is from a hyperboloid and said second segment is from a paraboloid.

55. (previously presented) The collector of claim 52, wherein said first and second mirror shells have dimensions that are different from one another in a direction of said axis of rotation.

56. (previously presented) The collector of claim 52,

wherein said first mirror shell is an inner mirror shell and said second mirror shell is an outer mirror shell,

wherein said first mirror shell has a mean value of an initial point and an end point with regard to said axis of rotation that indicates a position of said first mirror shell,

wherein said second mirror shell has a mean value of an initial point and an end point with regard to said axis of rotation that indicates a position of said second mirror shell, and

wherein said position of said outer mirror shell is further distant from said plane than said position of said inner mirror shell.

57. (previously presented) The collector of claim 52, wherein said first and second ring aperture segments are separated by a gap.

58. (previously presented) The collector of claim 52, further comprising a central aperture obscuration with a numerical aperture ≤ 0.30.

59. (previously presented) The collector of claim 58, wherein said central aperture obscuration comprises a diaphragm concentric to, and interior to, said first mirror shell.

60. (previously presented) The collector of claim 52, wherein said collector has an object-side maximum numerical aperture $NA_{max} \geq 0.4$.

61. (previously presented) The collector of claim 52, wherein said first and second mirror shells are two of a plurality of at least three mirror shells.

62. (previously presented) The collector of claim 52, wherein said light is from a light source that emits rays that impinge with an angle of incidence of less than 20° to surface tangents of said first and second mirror shells.

63. (previously presented) An illumination system, comprising the collector of claim 52.

64. (previously presented) The illumination system of claim 63, further comprising an optical element having raster elements.

65. (previously presented) The illumination system of claim 64, wherein said raster elements are located within said first and second planar ring section.

66. (previously presented) The illumination system of claim 64,
wherein said optical element is a first optical element, and
wherein said illumination system further comprises a second optical element for imaging.

67. (previously presented) The illumination system of claim 64,
wherein said optical element is a first optical element, and
wherein said illumination system further comprises a second optical element for field shaping.

68. (previously presented) The illumination system of claim 63,
wherein said plane is a first plane, and
wherein said illumination system has a second plane conjugated to a light source for said light, between said collector and said first plane, in which an intermediate image of said light source is formed.

69. (previously presented) The illumination system of claim 68, further comprising a diaphragm in or near said intermediate image, wherein said diaphragm separates a space containing said light source and said collector from a portion of said illumination system downstream of said diaphragm.

70. (previously presented) An EUV projection exposure system comprising:
the illumination system of claim 63 for illuminating a mask; and
a projection objective for imaging said mask on a light-sensitive object.

71. (previously presented) A collector for guiding light with a wavelength of ≤ 193 nm onto a plane, said collector comprising:
a first mirror shell for receiving a first ring aperture section of said light and irradiating a first planar ring section of said plane with a first irradiance;
a second mirror shell for receiving a second ring aperture section of said light and irradiating a second planar ring section of said plane with a second irradiance; and
a central aperture obscuration with a numerical aperture ≤ 0.30,
wherein said first and second mirror shells are rotationally symmetrical and concentrically arranged around a common axis of rotation,
wherein said first and second ring aperture sections do not overlap with one another,
wherein said first planar ring section substantially abuts said second planar ring section, and
wherein said first irradiance is approximately equal to said second irradiance.

72. (previously presented) The collector of claim 71, wherein said central aperture obscuration comprises a diaphragm concentric to, and interior to, said first mirror shell.

73. (previously presented) An illumination system for illuminating an object plane with radiation ≤ 193 nm from a light source, comprising:
a collector, wherein said collector has a mirror shell and an optical system arranged in a light path from the light source to the object plane behind said collector,
a plane conjugated to said light source in said light path, situated between said collector and said optical system, in which an intermediate image of said light source is formed; and

a diaphragm in or near said intermediate image, wherein said diaphragm separates a space containing said light source and said collector from a portion of said illumination system downstream of said diaphragm.

74. (canceled)

75. (canceled)

76. (previously presented) A collector for guiding light with a wavelength ≤ 193 nm comprising:

a first mirror shell; and

a second mirror shell,

wherein said first and second mirror shells are rotationally symmetrical and concentrically arranged around a common axis of rotation, and

wherein said collector has a central aperture obscuration with a numerical aperture ≤ 0.30.

77. (canceled)

78. (canceled)